S-010

PROCEDURES FOR OBTAINING NAVSTAR GLOBAL POSITIONING SYSTEM (GPS) SECURITY DEVICES AND PRECISE POSITIONING SERVICE (PPS) HOST APPLICATION EQUIPMENT (HAE)

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TABLE OF CONTENTS

1. INTRODUCTION

1.1 Background

The NAVSTAR Global Positioning System (GPS) Precise Positioning Service (PPS) incorporates classified system security functions consisting of selective availability (SA), anti-spoofing (A-S), and the associated cryptography. The GPS PPS security functions are implemented in both hardware and software. Hardware implementations of the GPS PPS security functions are embodied in a family of integrated circuits known generically as GPS security devices. GPS security devices include the PPS Security Module (PPS-SM), Auxiliary Output Chip (AOC), combined PPS-SM/AOC device, Selective Availability Anti-Spoofing Module (SAASM), and SAASM Code Block (SCB) device. GPS PPS host application equipment (HAE) are all applications of electronic products which contain any of the GPS PPS security functions. To protect the GPS PPS security functions, GPS security devices and PPS HAE must be controlled to preclude unauthorized access, tampering, theft, or loss.

Accordingly, the Department of Defense (DoD) has assigned to the GPS Joint Program Office (JPO) the overall responsibility for controlling the development, production, sale, and distribution of GPS security devices and PPS HAE. To ensure GPS security requirements are satisfied, DoD policy requires all US Government organizations and US companies to coordinate with the GPS JPO prior to undertaking any development, production, sale, or procurement of GPS security devices or PPS HAE.

1.2 Purpose

This document establishes the requirements and procedures governing the sale and procurement of GPS security devices and PPS HAE. Compliance with these requirements and procedures facilitates the procurement of GPS security devices and PPS HAE in an authorized and controlled manner.

1.3 Scope

Section 2 identifies additional documents which contain GPS security requirements applicable to the development, production, control, and handling of GPS security devices and PPS HAE. Section 3 addresses the specific DoD-approved GPS security devices and PPS HAE. Section 4 delineates specific requirements and procedures for the sale and procurement of GPS security devices and PPS HAE. Section 5 lists mailing addresses for key DoD organizations identified in this document.

2. GPS SECURITY REQUIREMENTS

All US Government organizations and US companies developing, manufacturing, selling, procuring, integrating, or otherwise handling GPS security devices or PPS HAE should become familiar with the security requirements contained in this document (CZE-93-71) and in the following additional documents. Submit requests for these documents to the GPS JPO System Requirements and Security Branch (SMC/CZEA).

a. CZE-93-105, NAVSTAR Global Positioning System Precise Positioning Service Host Application Equipment Security Approval Requirements, latest edition.

b. CZE-93-295, NAVSTAR Global Positioning System Precise Positioning Service Satellite Signal Simulators Security Approval Requirements, latest edition.

c. CZE-94-001, NAVSTAR Global Positioning System Selective Availability Anti-Spoofing Module Security Approval Requirements, latest edition.

d. NAVSTAR Global Positioning System System Protection Guide (formerly Security Classification Guide), latest edition.

e. NTISSI No. 3006 (NAG No. 054), Operational Security Doctrine for the NAVSTAR Global Positioning System User Segment, latest edition.

f. DoD Implementation Guide to the Operational Security Doctrine for the NAVSTAR Global Positioning System User Segment, latest edition.

3. APPROVED GPS SECURITY DEVICES AND PPS HAE

All GPS security devices and PPS HAE must receive GPS JPO security approval prior to their operational use by authorized US PPS users and prior to their export to authorized foreign countries.

3.1 GPS Security Devices

The list of approved GPS security devices is provided in Appendix I.

Other GPS security devices will be considered for approval by the GPS JPO. However, DoD policy discourages the proliferation of new PPS-SMs, AOCs, and combined PPS-SM/AOC devices. Consequently, new security devices of these types must have the same physical, electrical, and functional interface characteristics as those for the currently approved GPS security devices. Furthermore, DoD policy encourages the development and approval of SAASM as the next-generation multi-functional security device which incorporates all of the GPS PPS security functions. As a stepping stone to SAASM, the GPS JPO will also consider the development and approval of the SAASM code block as a separate security device.

3.2 GPS PPS HAE

The list of approved PPS HAE is published as a separate document by the GPS JPO. Submit requests for this document to the GPS JPO System Requirements and Security Branch (SMC/CZEA).

4. SALE AND PROCUREMENT REQUIREMENTS

4.1 Sale by Manufacturers of GPS Security Devices and PPS HAE

Manufacturers of GPS security devices and PPS HAE must comply with the following provisions before they may sell their GPS security devices or PPS HAE to authorized organizations. Failure to comply with these provisions may result in the GPS JPO revoking its approval of a manufacturer's GPS security device or PPS HAE and thereby barring the manufacture, marketing, and sale of the GPS security device or PPS HAE. To sell a GPS security device or PPS HAE, a manufacturer must:

a. Possess a letter from the GPS JPO approving the GPS security device or PPS HAE. In the case of PPS-SMs endorsed prior to 1992, possess a certificate from the National Security Agency (NSA) endorsing the PPS-SM.

b. Inform prospective buyers that they must obtain from the GPS JPO written authorization to procure the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

c. Obtain from prospective buyers a copy of the GPS JPO's procurement authorization letter prior to entering into any agreement to sell the GPS security device or PPS HAE. A copy of this letter may also be obtained from the GPS JPO. Sell only those quantities of GPS security devices or PPS HAE specified in the GPS JPO's procurement authorization letter.

d. Report to the GPS JPO System Requirements and Security Branch (SMC/CZEA) each sale of the GPS security device or PPS HAE. Include the following information in the report.

(1) GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity sold.

(2) Shipment date and destination.

(3) Organization that purchased the GPS security device or PPS HAE.

(4) Specific program or project requiring the GPS security device or PPS HAE.

(5) US Government organization sponsoring the program or project.

4.2 Procurement by DoD Organizations

DoD policy requires DoD organizations to employ PPS equipment which incorporates both SA and A-S, unless a waiver has been granted by the Deputy Under Secretary of Defense for Space (DUSD(Space)) or previously by the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I)). To procure a GPS security device or PPS HAE, a DoD organization must:

a. Coordinate with the GPS JPO System Requirements and Security Branch (SMC/CZEA) the procurement of the GPS security device or PPS HAE to ensure that GPS security requirements are satisfied.

b. Obtain from the GPS JPO (SMC/CZEA) a letter authorizing the procurement of the GPS security device or PPS HAE prior to entering into any agreement to purchase the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

c. Provide the following information to the GPS JPO (SMC/CZEA) when requesting authorization to procure the GPS security device or PPS HAE.

(1) Specific program or project for which the GPS security device or PPS HAE is required.

(2) Exact GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity required.

(3) Name, address, telephone number, and fax number of the US Government point of contact for the procurement.

(4) Name, address, telephone number, and fax number of the contractor point of contact, if a contractor will be procuring the GPS security device or PPS HAE for the US Government. Include contract number and contractor COMSEC account number.

d. Provide a copy of the GPS JPO's procurement authorization letter to the manufacturer from which the GPS security device or PPS HAE will be purchased.

4.3 Procurement by Non-DoD US Government Organizations

Non-DoD US Government organizations are authorized access to the PPS as documented in specific agreements with the Office of the DUSD(Space) or previously with the Office of the ASD(C3I). To procure a GPS security device or PPS HAE, a non-DoD US Government organization must:

a. Coordinate with the GPS JPO System Requirements and Security Branch (SMC/CZEA) the procurement of the GPS security device or PPS HAE to ensure that GPS security requirements are satisfied. Provide to the GPS JPO a copy of the interagency agreement or ODUSD(Space)'s letter or previously OASD(C3I)'s letter which documents the US Government organization's access to the PPS.

b. Obtain from the GPS JPO (SMC/CZEA) a letter authorizing the procurement of the GPS security device or PPS HAE prior to entering into any agreement to purchase the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

c. Provide the following information to the GPS JPO (SMC/CZEA) when requesting authorization to procure the GPS security device or PPS HAE.

(1) Specific program or project for which the GPS security device or PPS HAE is required.

(2) Exact GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity required.

(3) Name, address, telephone number, and fax number of the US Government point of contact for the procurement.

(4) Name, address, telephone number, and fax number of the contractor point of contact, if a contractor will be procuring the GPS security device or PPS HAE for the US Government. Include contract number and contractor COMSEC account number.

d. Provide a copy of the GPS JPO's procurement authorization letter to the manufacturer from which the GPS security device or PPS HAE will be purchased.

4.4 Procurement by US Government Contractors

A company on contract to a DoD or non-DoD US Government organization may procure GPS security devices or PPS HAE in the performance of its contract with the US Government. To procure a GPS security device or PPS HAE, a US Government contractor must:

a. Obtain from the contracting US Government organization a copy of the GPS JPO's letter authorizing the contractor to procure the GPS security device or PPS HAE. This letter should have been previously received by the sponsoring US Government organization from the GPS JPO prior to entering into any agreement to procure the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

b. Provide a copy of the GPS JPO's procurement authorization letter to the manufacturer from which the GPS security device or PPS HAE will be purchased. Procurement

of the GPS security device or PPS HAE shall be only in support of the US Government program or project and in the quantities specified in the procurement authorization letter.

4.5 Procurement for Prospective Sales

Authorized companies not supporting a current US Government contract may request permission to maintain stocks of limited quantities of GPS security device or PPS HAE in anticipation of future sales of GPS security devices or PPS HAE. A company desiring to do so must:

a. Obtain from the GPS JPO System Requirements and Security Branch (SMC/CZEA) written authorization to procure or produce a stockpile of the GPS security device or PPS HAE.

b. Provide the following information to the GPS JPO (SMC/CZEA) when requesting authorization to stockpile the GPS security device or PPS HAE.

(1) Specific purpose for which the GPS security device or PPS HAE is required.

(2) Exact GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity required.

(3) Name, address, telephone number, and fax number of the company's point of contact for procuring and/or controlling the GPS security device or PPS HAE.

(4) Company's COMSEC account number; name, address, telephone number, and fax number of the COMSEC Custodian.

(5) Statement that the company will comply with the security requirements for the control and handling of the GPS security device or PPS HAE.

c. Provide a copy of the GPS JPO's procurement authorization letter to the manufacturer from which the GPS security device or PPS HAE will be purchased.

d. Each subsequent sale of the GPS security device or PPS HAE from the authorized stock must be authorized by the GPS JPO prior to such sale. Inform prospective buyers that they must obtain from the GPS JPO written authorization to procure the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

e. Obtain from prospective buyers a copy of the GPS JPO's procurement authorization letter prior to entering into any agreement to sell the GPS security device or PPS HAE. A copy of this letter may also be obtained from the GPS JPO. Sell only those quantities of GPS security devices or PPS HAE specified in the GPS JPO's procurement authorization letter.

f. Report to the GPS JPO (SMC/CZEA) each sale of the GPS security device or PPS HAE from the authorized stock. Include the following information in the report.

(1) GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity sold.

(2) Shipment date and destination.

(3) Organization that purchased the GPS security device or PPS HAE.

(4) Specific program or project requiring the GPS security device or PPS HAE.

(5) US Government organization sponsoring the program or project.

(6) Quantity of GPS security devices or PPS HAE remaining in the authorized stock.

4.6 Procurement for Independent Research and Development (IR&D)

Authorized companies may request permission to procure and use GPS security devices or PPS HAE to support its IR&D projects. A company desiring to do so must:

a. Obtain from the ODUSD(Space) written authorization to use GPS security devices or PPS HAE in the company's IR&D program. This authorization will be valid for all of the company's IR&D projects that have potential application to DoD programs and missions.

b. Submit to the ODUSD(Space) a letter signed by or coordinated through the company's IR&D manager and security manager/COMSEC custodian. Include the following information in the letter.

(1) Description of the IR&D projects that have potential application to DoD programs and missions.

(2) Justification for use of GPS security devices or PPS HAE.

(3) Statement that the company will comply with the security requirements for the control and handling of the GPS security devices or PPS HAE.

(4) Company's Commercial and Government Entity (CAGE) code and COMSEC account number.

(5) Name, address, telephone number, and fax number of the company's point of contact for the IR&D authorization request.

c. Coordinate with the GPS JPO System Requirements and Security Branch (SMC/CZEA) the procurement of the GPS security devices or PPS HAE to ensure that GPS security requirements are satisfied. Provide to the GPS JPO a copy of the ODUSD(Space)'s letter or previously the OASD(C3I)'s letter authorizing the use of the GPS security devices or PPS HAE in the company's IR&D program.

d. Obtain from the GPS JPO (SMC/CZEA) a letter authorizing the procurement of the GPS security device or PPS HAE prior to entering into any agreement to purchase the GPS security device or PPS HAE. A separate authorization must be obtained for each procurement on a case-by-case basis.

e. Provide the following information to the GPS JPO (SMC/CZEA) when requesting authorization to procure the GPS security device or PPS HAE.

(1) Specific IR&D project and purpose for which the GPS security device or PPS HAE is required.

(2) Exact GPS security device or PPS HAE nomenclature, part number (both hardware and software for PPS HAE), and quantity required.

(3) Name, address, telephone number, and fax number of the company's point of contact for procuring and/or controlling the GPS security device or PPS HAE.

(4) Company's COMSEC account number; name, address, telephone number, and fax number of the COMSEC Custodian.

f. Provide a copy of the GPS JPO's procurement authorization letter to the manufacturer from which the GPS security device or PPS HAE will be purchased.

g. GPS security devices or PPS HAE obtained for use in the company's IR&D program shall not be subsequently sold, leased, or loaned without written authorization from the GPS JPO.

4.7 Foreign Military Sales (FMS)

US-produced GPS security devices or PPS HAE may not be sold directly to foreign organizations and must be processed through FMS procedures which involve government-to-government transactions. The Office of the Deputy Under Secretary of the Air Force for International Affairs (SAF/IA) administers FMS actions and approves FMS cases for GPS security devices and PPS HAE. The GPS JPO is the centralized procuring agency for all FMS acquisitions of GPS security devices and PPS HAE. The GPS JPO will procure GPS security devices or PPS HAE according to the provisions in approved FMS cases.

The FMS process generally proceeds as follows:

a. The foreign government's ministry of defense (MOD) sponsors the foreign organization's request to obtain GPS security devices or PPS HAE and submits a Letter of Request (LOR) to the US Embassy in the originating country.

b. The US Embassy forwards the LOR to SAF/IA with information copy to the US Department of State Bureau of Politico-Military Affairs (SECSTATE-PM) and to the US DoD Defense Security Assistance Agency (DSAA).

c. SECSTATE-PM, DSAA, and SAF/IA coordinate the approval of the LOR.

d. SAF/IA works with the GPS JPO to prepare a Letter of Offer and Acceptance (LOA), which is the government-to-government agreement for the purchase of the GPS security devices or PPS HAE. The LOA delineates the items to be purchased, the estimated costs, and the terms and conditions of the sale.

e. SAF/IA sends the LOA to DSAA for countersignature and forwarding to the foreign MOD for acceptance.

f. The foreign MOD signs and returns the LOA to indicate acceptance of the US Government's offer. Signing of the LOA and providing applicable funding constitute a contractual commitment between the US Government and the foreign government.

g. With SAF/IA direction, the GPS JPO executes the approved FMS case according to the provisions of the LOA.

5. ORGANIZATIONAL ADDRESSES

The mailing addresses for key DoD organizations are listed below.

a. For coordination and authorizations relating to the sale and procurement of GPS security devices and PPS HAE or for information on GPS security requirements and related documents, contact the GPS JPO System Requirements and Security Branch (SMC/CZEA):

SMC/CZEA
2435 Vela Way, Suite 1613
Los Angeles Air Force Base
El Segundo CA 90245-5500

b. For FMS information or actions, contact the Office of the Deputy Under Secretary of the Air Force for International Affairs (SAF/IA):

SAF/IA
The Pentagon
Washington DC 20330-5000

c. For information on DoD GPS policies or for PPS IR&D authorizations, contact the Office of the Deputy Under Secretary of Defense for Space (ODUSD(Space)):

ODUSD(Space)
3900 Defense, Pentagon 1E765
Washington DC 20301-3900

APPROVED GPS SECURITY DEVICES

MANUFACTURER	NOMENCLATURE	PART NUMBER	DESCRIPTION
Harris Corporation	Auxiliary Output Chip (AOC)	TA-624-10; M95AO501QXA	1-channel AOC; 40-pin; ceramic; leadless chip carrier; 0.48 x 0.48 x 0.07 inches
		TB-624-10; M95AO501QYA	1-channel AOC; 28-pin; dual in-line package; 1.49 x 0.50 x 0.232 inches
LSI Logic Corporation	Auxiliary Output Chip (AOC)	TA-624-20	1-channel AOC; 40-pin; ceramic; leadless chip carrier; 0.48 x 0.48 x 0.07 inches
		TB-624-20	1-channel AOC; 28-pin; dual in-line package; 1.49 x 0.50 x 0.232 inches
Hughes Defense Communications (Formerly Magnavox Electronic Systems Company)	Precise Positioning Service Security Module (PPS-SM)	MX-617510A	PPS-SM; 68-pin; J-leaded chip carrier; 1.0 x 1.0 x 0.125 inches; military grade
Motorola Incorporated	"Sharpshooter" Security Module (PPS-SM/6AOC)	51-P31981E001	6-channel AOC only; 100-pin; ceramic; L-leaded chip carrier; 0.95 x 0.95 x 0.125 inches; 883 screened
		51-P31981E002	6-channel AOC only; 100-pin; ceramic; L-leaded chip carrier; 0.95 x 0.95 x 0.125 inches; industrial grade
		51-P31981E003	Integrated PPS-SM w/ 6-channel AOC; 100-pin; ceramic; L-leaded chip carrier; 0.95 x 0.95 x 0.125 inches; 883 screened
		51-P31981E004	Integrated PPS-SM w/ 6-channel AOC; 100-pin; ceramic; L-leaded chip carrier; 0.95 x 0.95 x 0.125 inches; industrial grade
Rockwell Collins Incorporated	Multi-Channel Auxiliary Output Chip (AOC)	351-8981-010	5-channel AOC; 160-pin; plastic; quad flat pack; industrial grade
		351-8981-020	5-channel AOC; 132-pin; ceramic; pin grid array; industrial grade
		351-8981-022	5-channel AOC; 132-pin; ceramic; pin grid array; 883 screened
	Precise Positioning Service Security Module (PPS-SM)	676-9868-001	PPS-SM; 40-pin; ceramic; dual in-line package; industrial grade
		676-9868-002	PPS-SM; 40-pin; ceramic; dual in-line package; industrial grade; power save software
		995-8382-002	PPS-SM; 44-pin; ceramic; gull wing leaded assembly; industrial grade

MANUFACTURER	NOMENCLATURE	PART NUMBER	DESCRIPTION
Stanford Telecommunications Incorporated	Precise Positioning Service Security Module (PPS-SM)	STEL-9300/EC	PPS-SM; 44-pin; ceramic; J-leaded chip carrier; 0.65 x 0.65 x 0.15 inches; industrial grade
		STEL-9300/EG	PPS-SM; 40-pin; ceramic; dual in-line package; 2.085 x 0.61 x 0.215 inches; industrial grade
		STEL-9300/EP	PPS-SM; 44-pin; plastic; leadless chip carrier; 0.65 x 0.65 x 0.172 inches; industrial grade
		STEL-9300/MC	PPS-SM; 44-pin; ceramic; J-leaded chip carrier; 0.65 x 0.65 x 0.15 inches; military grade
		STEL-9300/MG	PPS-SM; 40-pin; ceramic; dual in-line package; 2.085 x 0.61 x 0.215 inches; military grade
Texas Instruments Incorporated	Signal Processing Chip (SPC)	2990520-1	Code-generator/signal processor w/ 2-channel AOC; 95-pin; pin grid array
		3104836-1	Code-generator/signal processor w/ 2-channel AOC; 147-pin package
Trimble Navigation, Limited	"Gondola" Multi-Channel Auxiliary Output Chip (AOC)	20248	6-channel AOC; 84-pin; ceramic; flat pack